

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings of claims in the application:

**Listing of Claims:**

1-30. (Canceled)

31. (Currently Amended) A method of screening an agent for toxic activity and a therapeutic activity *in vivo* comprising:

administering the agent to a plurality of teleosts *in vivo*;

detecting *in vitro* or *in situ* a change in expression of a protein or mRNA in a specific organ or tissue of the teleost responsive to the agent relative to the expression of the protein or mRNA in the specific organ or tissue of a teleost to which the agent has not been administered, the change in expression indicating toxic activity in at least one tissue or organ of the teleost administered the agent; and

detecting *in vitro* or *in situ* a change assessing whether the agent is effective to promote the therapeutic activity in a different[[the]] teleost administered the agent relative to a control teleost not administered the agent, wherein the change is indicative of the therapeutic activity.

32. (Canceled)

33. (Previously Presented) The method of claim 31, wherein the change in the teleost indicating toxic activity is detected in at least two tissues, at least two organs, or at least one tissue and one organ simultaneously.

34. (Canceled)

35. (Currently Amended) The method of claim 31, wherein ~~the agent is administered to at least two teleosts and~~ a response is detected indicating toxic activity in ~~each of~~ said at least two teleosts simultaneously.

36. (Currently Amended) The method of claim 35, wherein each of said at least two teleosts is contained in a separate well of a multi-well plate.

37. (Previously Presented) The method of claim 36, wherein the wells of the multi-well plate have a volume of 300 microliters or smaller per well.

38. (Previously Presented) The method of claim 36, wherein the wells contain the teleosts in a volume of 50-200 microliters per well.

39. (Currently Amended) The method of claim 31, wherein the plurality of teleosts are[[is]] contained within separate[[a]] wells of a multi-well plate having a volume of 300 microliters or smaller.

40. (Currently Amended) The method of claim 31, wherein the plurality of teleosts are[[is]] contained within separate[[a]] wells of a multi-well plate in a volume of 50-200 microliters.

41. (Canceled)

42. (Currently Amended) A method of screening an agent for toxic activity *in vivo* comprising:

contacting a living teleost with a test agent, wherein the test agent is added  
administering the agent to culture media containing the teleost *in vivo*, whereby the agent  
permeates the teleost; and

detecting *in vitro* or *in situ* a change in expression of a protein or mRNA in a  
specific organ or tissue of the teleost responsive to the agent relative to the expression of the  
protein or mRNA in the specific organ or tissue of a control teleost that has not been contacted

with the agent, the change in expression ~~a response in the~~ teleost indicating toxic activity in the at least one tissue or organ of the teleost contacted with the agent.

43. (Currently Amended) The method of claim 42, wherein the change in expression of the protein or mRNA ~~response~~ in the teleost indicating toxic activity is detected over time.

44. (Currently Amended) The method of claim 42, wherein the change in expression of the protein or mRNA ~~response~~ in the teleost indicating toxic activity is detected in at least two tissues, at least two organs, or at least one tissue and one organ simultaneously.

45. (Currently Amended) The method of claim 44, wherein the change in expression of the protein or mRNA ~~response~~ in the teleost indicating toxic activity is over time at predetermined intervals.

46. (Currently Amended) The method of claim 42, further comprising ~~contacting~~ ~~administering the agent to~~ at least two teleosts with the agent and detecting a change in expression of the protein or mRNA ~~response~~ indicating toxic activity in each of said at least two teleosts simultaneously.

47. (Previously Presented) The method of claim 46, wherein each of said at least two teleosts is contained in a well of a multi-well plate.

48. (Previously Presented) The method of claim 47, wherein the wells of the multi-well plate have a volume of 300 microliters or smaller per well.

49. (Previously Presented) The method of claim 47, wherein the wells contain the teleosts in a volume of 50-200 microliters per well.

50. (New) The method of claim 42, wherein the teleost and the control teleost are contained in separate wells of a single multi-well plate.

51. (New) The method of claim 50, wherein the wells of the multi-well plate have a volume of 300 microliters or smaller per well.

52. (New) The method of claim 50, wherein the wells of the multi-well plate have a volume of greater than 300 microliters per well.

53. (New) The method of claim 42, wherein the teleost is a zebrafish.

54. (New) The method of claim 31, wherein the plurality of teleosts are zebrafish.

55. (New) The method of claim 42, wherein the teleost has a chorion when contacted with the test agent.

56. (New) The method of claim 31, wherein the plurality of teleosts are wild-type teleosts.

57. (New) The method of claim 42, wherein the teleost is a wild-type teleost.